

Application No. 09/740,209

REMARKS


In an Office Action dated December 18, 2002, claims 1 and 2 were rejected under 35 U.S.C 102(b) as being anticipated by Hauser (U.S. Patent 5,485,828). Claims 3-6 and 14-17 were rejected under 35 U.S.C. 103(a) as being unpatentable over Hauser. However, claims 7-13 and 18 were rejected as being dependent on a rejected base claim but would be allowable if rewritten in independent form.

In response, Applicant has amended the claims to 1 to include the limitation of claim 8 and is thus believed to be allowable. Claims 11 and 12 have also been rewritten in independent form. Independent claim 14 has also been rewritten in independent form. Thus, as amended, independent claims 1, 11, 12 and 14 are believed to be allowable.

In addition, claim 6 has been rewritten in independent form. Applicant respectfully submits that as amended, claim 6 is allowable over the prior art because the prior art does not show using a second drive element and a second acoustic lens to eject a second droplet of pharmaceutical product.

In view of the preceding amendments and remarks, Applicant respectfully submits that the claim as amended are allowable over the cited prior art reference, and allowance at Examiner's earliest convenience is hereby respectfully requested. In the event that the Examiner believes a teleconference would facilitate prosecution, Applicant respectfully requests that Examiner contact the undersigned.

Respectfully submitted,



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VERSION WITH MARKINGS TO SHOW CHANGES MADE:**IN THE SPECIFICATION:****Amended Page 1, line 2 before "Background of the Invention"**

This application is related to patent application serial number 09/739,989 entitled "A Method of Using Focused Acoustic Waves to Deliver a Pharmaceutical Product" also filed on December 18, 2000 and assigned to the same Assignee.

IN THE CLAIMS

1. (Amended) An apparatus for delivering a pharmaceutical product comprising:

a driver element to generate acoustic energy, the driver element designed to generate acoustic energy in pulses that are of a short duration and low frequency such that the droplet of pharmaceutical product is output due to capillary action;

an acoustic lens to focus the acoustic energy generated by the driver;

a delivery system to maintain the pharmaceutical product in a position to receive the acoustic energy from the acoustic lens and cause ejection of a droplet of pharmaceutical product.

6. (Amended) An [The] apparatus [of claim 1] for delivering a pharmaceutical product [further] comprising:

a driver element to generate acoustic energy;

an acoustic lens to focus the acoustic energy generated by the driver;

a delivery system to maintain the pharmaceutical product in a position to receive the acoustic energy from the acoustic lens and cause ejection of a droplet of pharmaceutical product;

a portable energy source to provide energy to the driver element;

a second driver element coupled to the portable energy source; and

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a second acoustic lens to focus the energy generated by the second driver element, acoustic energy from the second acoustic lens to cause ejection of a second droplet of pharmaceutical product.

Claim 8 has been cancelled.

9. (Amended) The apparatus of claim [8] 1 wherein the driver element is programmed to output acoustic energy at a frequency below 15 MHz.

11. (Amended) An [The] apparatus [of claim 1] for delivering a pharmaceutical product [wherein the delivery system further comprises] comprising:

a driver element to generate acoustic energy;

an acoustic lens to focus the acoustic energy generated by the driver;

a delivery system to maintain the pharmaceutical product in a position to receive the acoustic energy from the acoustic lens and cause ejection of a droplet of pharmaceutical product, the delivery system including a pressurization system that controls the pressure of the pharmaceutical product.

12. (Amended) An [The] apparatus [of claim 1] for delivering a pharmaceutical product [further] comprising:

a driver element to generate acoustic energy;

an acoustic lens to focus the acoustic energy generated by the driver;

a delivery system to maintain the pharmaceutical product in a position to receive the acoustic energy from the acoustic lens and cause ejection of a droplet of pharmaceutical product;
and

a sterilization mechanism that outputs ultraviolet energy to sterilize the acoustic lens.

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14. (Amended) An apparatus to output pharmaceutical product for inhalation into the respiratory system of a patient, the apparatus comprising:

a portable energy supply;

at least one transducer coupled to the portable energy supply, the at least one transducer to output acoustic energy;

a plurality of lenses to receive and focus energy from the at least one transducer;

a delivery system to maintain a reservoir of pharmaceutical product, a distance from a top surface of a lens and a surface of the reservoir of pharmaceutical product is less than 150 micro meters, the reservoir of pharmaceutical product to receive energy from the plurality of lenses the received energy to cause ejection of a plurality of droplets a distance from a top surface of a lens.

Claim 18 has been cancelled.